

# (12) UK Patent Application (19) GB (11) 2 220 472 A

(43) Date of A publication 10.01.1999

(21) Application No 8815995.9

(22) Date of filing 05.07.1988

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(51) INT CL.  
F21S 31/4

(52) UK CL. (Edition J)  
F4R RS R3B9 R3BY R409 R80X  
U1S S1935

(58) Documents cited  
None

(59) Field of search  
UK CL. (Edition J) F4R RAG RS  
INT CL. F21L, F21S

## (54) Lighting system for table game

(57) A lighting system for a table game comprises a substantially square frame (1) which, in use, projects upwardly of a table top and adjacent to the edge of the table. Each side of the frame incorporates a lamp which is arranged to illuminate the area within and defined by the frame (1). The frame may be separate from the table top, in which case it may be dismantlable or foldable, or the frame may be integral with the table.

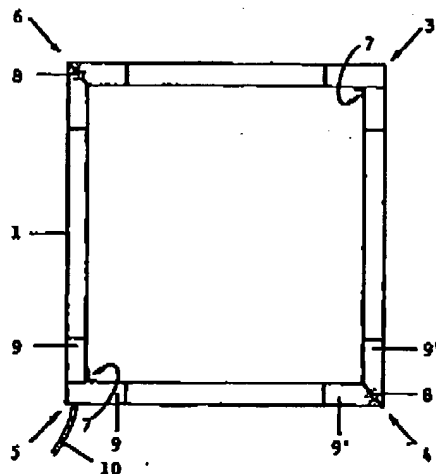


FIG. 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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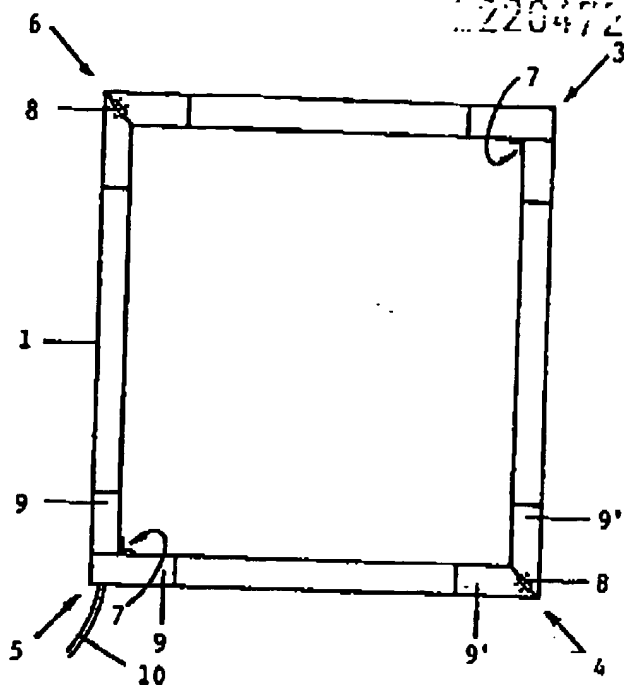


FIG. 1

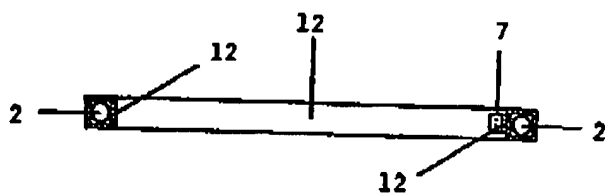


FIG. 2

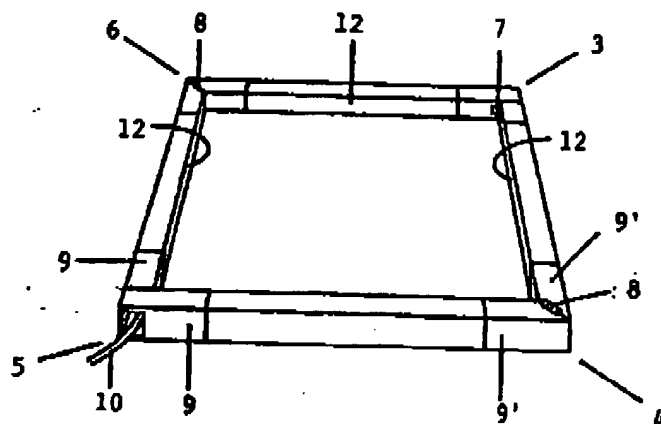
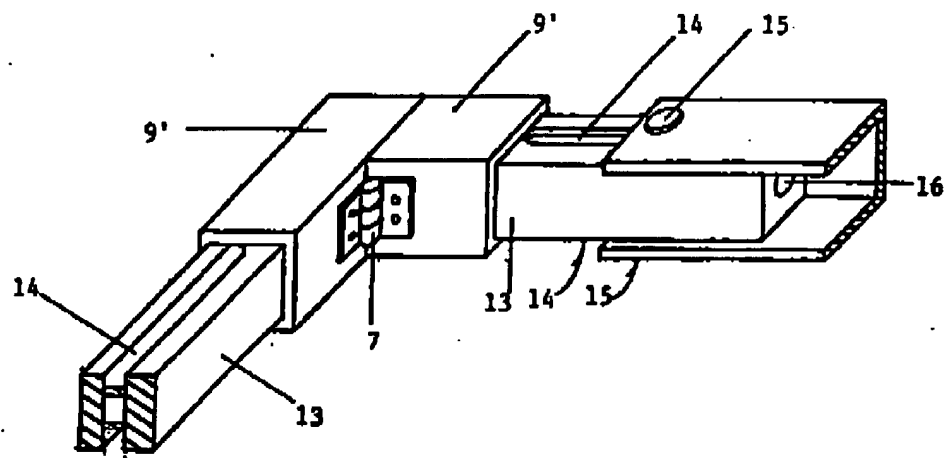
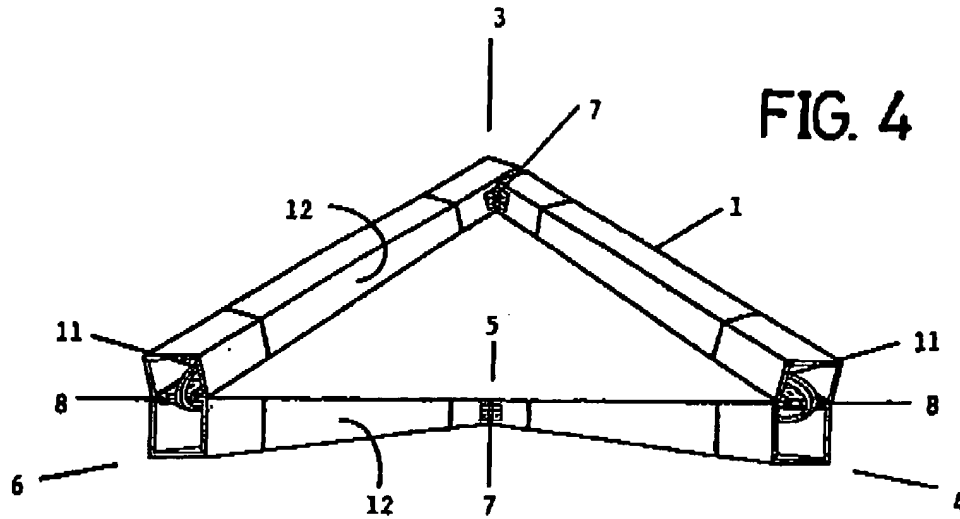


FIG. 3

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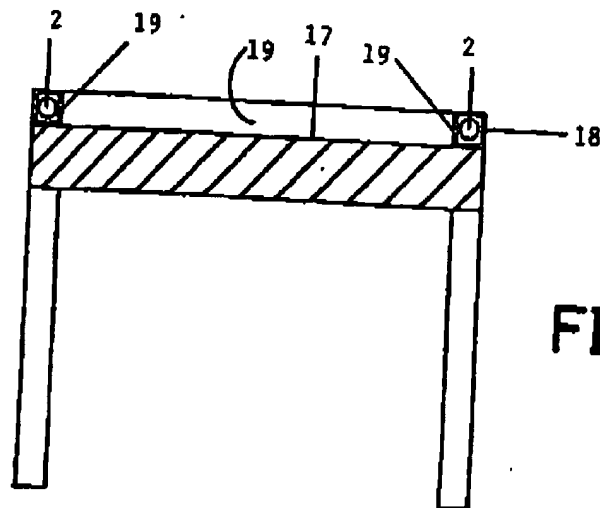


FIG. 6

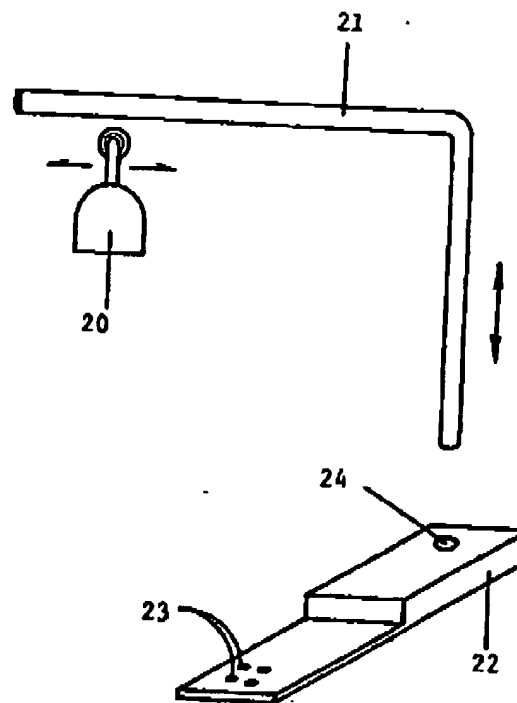


FIG. 7

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DESCRIPTIONLIGHTING SYSTEM FOR TABLE GAMES.

5       The present invention is directed to a new lighting system, in order to provide improved illumination for playing table games, such as mahjong.

10       At present, a typical mahjong table has a square playing surface and a raised shoulder or wall provided around the edge of the table. This wall thus acts as a boundary for the playing surface and a straight surface against which the tiles can be abutted to align them with one another. Lighting for the game is usually provided by a powerful centrally  
15       positioned light, usually suspended above the table from the ceiling of the room in which the game is played. However, this central lighting is difficult to provide out of doors and in any case tends to cause shadows to be cast over the tiles, which need  
20       to be positioned on edge at the outer edges of the square table, with their faces towards a respective player and therefore away from the light. This makes it difficult for a player to see the playing pieces.

25       According to the present invention, a lighting system for a table game comprises a substantially square frame which, in use, projects upwardly of a table top and adjacent to the edge of the table, each side of the frame incorporating a lamp which is  
30       arranged to illuminate the area within and defined by the frame.

35       The frame of the lighting system may be separate from the table and be laid on the table top when used. The table top may be square and may or may not be provided with a raised wall around its circumference. The frame may also be dismantlable, for example by spigot and socket joints at its

corners, into more compact parts for storage and transport. Alternatively, the frame may be provided with hinges so that it may be folded up to a compact size for storage or transport. The hinges for one pair of diagonally opposite corners may then be arranged with their axes perpendicular to the plane of the square frame, and the hinges for the other pair of diagonally opposite corners are arranged with their axes along the diagonal between those other corners. The frame can then be folded up by folding one of the first pair of corners over to the second of the first pair of corners, and then folding the second pair of corners together. In either case, the frame may be adapted so that the one or both pairs of opposing sides are extendable so as to accommodate variations in size and shape of the square or rectangular table top.

The frame may be stabilised on the table top by clamps or brackets. Alternatively, the frame of the lighting system may be integral with a substantially square table.

The frame may be formed of a metal, such as aluminium, or of some other suitable material such as wood.

Preferably, each lamp is behind a window of translucent material forming at least part of a wall which faces into the frame at the respective side of the frame.

The system may incorporate a battery but it is usually energised by a remote power source through trailing leads.

Two examples of systems constructed in accordance with the present invention are illustrated diagrammatically in the accompanying drawings, in which:-

Figure 1 is a view from above of the first example of a lighting system;

Figure 2 is a cross-section through the lighting system of Figure 1;

Figure 3 is a perspective view of the lighting system of Figure 1;

5 Figure 4 is a perspective view of the lighting system of Figure 1, in a semi-collapsed configuration;

Figure 5 is a view on an enlarged scale of a corner provided with extendable arms;

10 Figure 6 is a cross-section through the second example; and,

Figure 7 is an exploded view of a central lighting system.

15 The lighting system shown in Figures 1, 2, 3 and 4 has a frame 1 which is square when in the open configuration in which it is used. The frame 1 has four sides, each of which has a fluorescent tube 2 mounted within it, and four corners 3, 4, 5 and 6. The frame is formed of extruded aluminium channels of square cross-section, and the fluorescent tubes 2 may be fixed in position within the channels by C-clips or by nesting the tubes snugly in packing material.

20 The sides of the frame are joined to one another by hinges 7, 8. The hinges 7 are positioned at diagonally opposite corners 3 and 5 on the inner walls of the frame, with their axes perpendicular to the plane of the frame. Hinges 8 are positioned at diagonally opposite corners 4 and 6 on the upper surface of the frame, with their axes lying along the diagonal between the corners 4 and 6. By this means, 25 the lighting system may be folded into a compact shape, which is convenient for storage and transport purposes. As shown in figure 4, this compact shape is achieved by folding a first corner 3 up and over to the corner 5 by means of the hinges 8. The remaining two corners 4 and 6 are then brought 30 towards one another, by folding about the hinges 7.

The hinges 7,8 are attached to portions 9,9'

located at the end of each side of the frame 1. As shown in figures 1 and 3, the uppermost faces of portions 9 at corners 3 and 5 are formed with their ends, which are nearest to the hinge 7, parallel to the sides of the frame. The uppermost faces of portions 9' at corners 4 and 6 are formed with their ends, which are nearest to the hinge 8, lying along the diagonal between those corners when the frame is in the open configuration, as shown in figure 1. By this means, the portions 9, 9' are able to accommodate the hinges 7, 8 whilst providing a smooth, regular appearance to the frame.

The opened frame 1 is placed on top of a suitable table, i.e. one of a convenient size and generally square. The frame may be fixed to the table by screws or the like if desired, or merely rested on top of the table. The sides of the frame provide inwardly facing wall surfaces around the table against which, when the table is used for mahjong, the tiles can be abutted to align them with one another, and which prevent tiles falling from the table. This lighting system 1 thus allows any suitable table to be converted into a mahjong table. Each player's tiles are illuminated from the front by a fluorescent tube 2, which thus provides an even illumination, eliminating shadows cast over the front of the playing pieces by other lighting methods. Power for the fluorescent tubes 2 may be provided by one or more batteries incorporated within the frame, or, more usually, from an external power source through a trailing lead 10. The fluorescent tubes 2 are interconnected by leads 11, as shown in figure 4.

An inner wall 12 of each side of the frame 1 may be formed at least partly of translucent material such as plastics or glass. This allows light from the fluorescent tubes 2 to pass through whilst providing a straight surface against which mahjong



players may abut their tiles.

With reference to Figure 5, there is shown a corner which is adapted so that the frame of the first example may be extended in one or both  
5 directions parallel and perpendicular to a particular side. Each portion 9' has an extension 13 of reduced cross-sectional area. A groove 14 is provided along the upper and lower surface of each extension 13. A stud 15, which may, for example, be formed by  
10 stamping, is located on the inner face of each of the upper and lower surfaces of the sides of the frame 1, towards the end as shown. Each stud 15 engages a respective groove 14, so that a smooth telescopic action is achieved, whereby the portions 9' may be  
15 moved towards and away from the centre of each side. The groove 14 terminates before the end, furthest from the hinge 7 of the extension 13, so that the studs 15 prevent the corner portions becoming detached from the rest of the frame. A cylindrical  
20 bore 16 through the centre of the extension 13 provides a channel through which pass the leads 11. Such a telescopic system can be provided at all four corners or simply at two corners. Alternatively, the frame sides may be adapted so as to be telescopic.  
25 By this means, limited variations in size and shape of the table top may be accommodated.

The second example of a lighting system according to the present invention is shown in cross-section in Figure 6. A table has a square  
30 playing surface 17 surrounded by an integral frame in the form of a wall 18 which extends upwards at each edge of the table. A fluorescent tube 2 is positioned at the centre of each of the four sides of the wall 18, facing inwards. When used for playing  
35 mahjong, the tiles of each player are thereby evenly illuminated as with the first example. The inner portions 19 of each side of the wall 18 may be formed

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at least partly of translucent material as in the first example. The frame in this second example may be formed of aluminium or of wood matching the table.

In addition to the side lighting provided by the fluorescent tubes 2, central lighting may be provided by means of a stand and support as shown in Figure 7. A lamp 20 is slidably attached to a horizontal portion of a generally L-shaped support 21. A supporting member 22 has four holes 23 which receive screws so as to fix the supporting member 22 to the frame 1 of the first example, the table on which the frame 1 is mounted, or the table of the second example. The supporting member 22 is provided with an aperture 24, shaped so as to receive the vertical portion of the L-shaped member 21. The L-shaped member 21 may be fixed in place in the supporting member 22 by screwing or some other conventional means. The lamp 20 is slid along the horizontal portion of the L-shaped member 21 so as to be positioned in position for optimum lighting. The combination of this central lamp 20 together with the wall-mounted fluorescent tubes 2 thus provides a uniform illumination and leaves the playing table and tiles of a mahjong game relatively shadow-free.

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CLAIMS

1. A lighting system for a table game comprising a substantially square frame which, in use, projects upwardly of a table top and adjacent to the edge of the table, each side of the frame incorporating a lamp which is arranged to illuminate the area within and defined by the frame.
2. A lighting system according to claim 1, wherein the frame is separate from the table.
3. A lighting system according to claim 2, wherein the frame is dismantlable.
4. A lighting system according to claim 2, wherein the frame is provided with hinges to enable folding thereof.
5. A lighting system according to claim 4, wherein the hinges for one pair of diagonally opposite corners are arranged with their axes perpendicular to the plane of the square frame, and the hinges for the other pair of diagonally opposite corners are arranged with their axes along the diagonal between those other corners.
6. A lighting system according to any of claims 2 to 5, wherein one or both pairs of opposing sides are extendable.
7. A lighting system according to claim 1, wherein the frame is integral with the table.

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8. A lighting system according to any of the preceding claims, wherein each lamp is behind a window of translucent material forming at least part of a wall which faces into the frame at the respective side of the frame.

9. A lighting system according to any of the preceding claims, wherein further illumination is provided by a fifth lamp attached to and having an adjustable position relative to the frame.

10. A lighting system for a table game substantially as described with reference to Figures 1 to 5 and 7, or to Figures 6 and 7.